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ABSTRACT

This report presents estimates of four types of newly hired teachers: newly prepared teachers, delayed entrants, transfers, and reentrants. It describes their demographic characteristics, teaching qualifications, career paths, and former occupations from the 1987-1988, 1990-1991, and 1993-1994 Schools and Staffing Surveys. Between 1987-1988 and 1993-1994, a shift in sources of newly hired teachers occurred as public school districts and private schools hired relatively more first-time teachers and relatively fewer reentrants. In school year 1993-1994, the relative contributions of first-time teachers, transfers, and reentrants to the supply of newly hired teachers were similar, and the relative importance of these groups as sources were the same in both public and private sectors. Like the teacher workforce as a whole, newly hired teachers in 1993-1994 were predominantly female and predominantly white non-Hispanic, although less so than the teacher workforce as a whole. The percentage of newly hired minority teachers increased. Many new hires gained access to teaching jobs through substitute teaching. (Contains 9 tables, 4 figures, and 25 references.) (SLD)

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Statistical Analysis Report September 2000

Teacher Supply in the United States: Sources of Newly Hired Teachers in Public and Private Schools, 1987–88 to 1993–94

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Statistical Analysis Report September 2000

Teacher Supply in the United States: Sources of Newly Hired Teachers in Public and Private Schools, 1987–88 to 1993–94

Stephen P. Broughman
Mary R. Rollefson

U.S. Department of Education
Office of Educational Research and Improvement NCES 2000–309

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Highlights

This report presents estimates of four types of newly hired teachers (newly prepared teachers, delayed entrants, transfers, and reentrants) and of their basic demographic characteristics, teaching qualifications, career paths, and former occupations from the 1987–88, 1990–91, and 1993–94 Schools and Staffing Surveys.

- Between 1987–88 and 1993–94 a shift in sources of newly hired teachers occurred as public school districts and private schools hired relatively more first-time teachers and relatively fewer reentrants (table 2). Among the first-time teachers there was increased hiring of both newly prepared and delayed entrant groups.
- In school year 1993–94, the relative contributions of first-time teachers, transfers, and reentrants to the supply of newly hired teachers were similar and the relative importance of them as sources were the same (first-time teachers, followed by transfers, followed by reentrants) in both sectors (table 2). Of the two types of first-time teachers, the public sector hired relatively more newly prepared teachers and fewer delayed entrants than the private sector.
- Like the public and private school teacher workforces as a whole (table 5), newly hired teachers in 1993–94 were predominately female and predominately white non-Hispanic, although less so than the teacher workforce as a whole. Between 1987–88 and 1993–94, the percent of newly hired teachers who were minority increased in public and private schools (tables 3 and 4). The percent of minority newly prepared teachers doubled in the public sector and quadrupled in the private sector and there were relative increases in the numbers of minority public reentrants and private transfers.
- In both sectors in 1993–94, delayed entrants were less likely than newly prepared teachers to hold qualifications (major or minor, certification) in their primary field of assignment (table 7). In both sectors, experienced new hires (that is, transfers and reentrants) held virtually the same qualifications and were very similar to newly prepared teachers.
- The percent of public sector delayed entrants, transfers, and reentrants holding a major or minor plus certification in the primary field of assignment increased between 1987–88 and 1993–94 (table 7).
- In school year 1993–94, many new hires gained access to teaching jobs through substitute teaching positions. Many delayed entrants (thirty-six percent of public and 22 percent of private delayed entrants) were substitute teachers in the previous year, as were 28 percent of public and 18 percent of private reentrants (table 8).
- Among both delayed entrants and reentrants, working in non-teaching occupations was a major prior year activity. Over a third of public and almost half of private delayed entrants, and a fourth of public and over a third of private reentrants transferred from occupations outside of education in 1993–94 (table 8). Most occupational transfers also are from occupations outside education. Overall, occupational transfers occur more often in the private sector than in the public sector.

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Introduction

New college graduates with teacher education training have traditionally been the largest source of new hires to teaching each year in the nation's schools. In the past two decades, however, as school enrollments increased and fewer college graduates entered teaching, concern about possible shortages in the supply of teachers has increased. In the 1960s, for example, 67 percent of newly hired teachers in public schools were new college graduates, but by the late 1980s this source supplied only 17 percent of new hires (National Education Association 1987). Until the mid 1980s, the National Center for Education Statistics (NCES) made annual projections of the numbers of newly graduated teachers. When these supply numbers fell below the projected demand for new hires to teaching, many, failing to account for other sources of new hires besides new college graduates, reacted with alarm about impending teacher shortages. In school year 1987–88, NCES implemented a new survey, the Schools and Staffing Survey, to provide better measures of teacher supply and demand conditions, and factors influencing its balance, including teacher salaries, qualifications and career patterns.

Since the late 1980s, concern about teacher shortages has fluctuated. Diminishing the concern are reports from this new survey, as well as studies in several states, showing low rates of teacher attrition (Bobbitt 1991; Bobbitt et al. 1994; Rollefson 1990; Whitener et al. 1997) and increasing numbers of teachers being hired from the reserve pool of former teachers (Kirby, Grissmer, and Hudson 1991; Murnane, Singer, and Willet 1988; Gilford and Tenenbaum 1990; Rollefson 1993a). On the other hand, a number of factors make continued monitoring of teacher supply and demand important: 1) school enrollments continue to increase, increasing the demand for teachers; 2) the education pipeline, in spite of increases in the late 1980s, is still turning out smaller numbers of graduates with education degrees than in the past (NCES 1999, 326) with inevitable long term effects on the size of the reserve pool (non-teachers with teaching experience or training); 3) policy initiatives to reduce class sizes are increasing demand for teachers attention; 4) the size and character of the reserve pool upon which we depend on for a significant portion of new hires remain unknown; 5) entry-level teacher salaries, although they have kept pace with inflation, remain lower than salaries paid in many other entry-level professions, leaving teaching at a disadvantage in attracting talented college graduates into its ranks (Rollefson 1993b); and 6) the practice in several states of waiving standard teacher credentials when hiring new teachers continues, suggesting that some adjustments in teacher qualifications are being made, possibly in response to shortages.

Those who study teacher supply generally identify four sources of newly hired teachers: first-time teachers who come directly out of college into teaching; other first-time teachers who engage in other activities between graduating from college and taking their first teaching job; teachers who transfer from other schools, districts, states, or sectors (public or private); and former teachers reentering teaching after breaks in their teaching careers.

Which teachers are counted as new hires, specifically which teachers who transfer from other teaching positions are counted, depends on the model being used. Each of the following models represents a different policy perspective and produces different counts of transfers. A national model counts as new hires only those teachers who transferred from outside the country; a state model, only those who transferred from another state; a district model, only those from another district; and a school model, all who transferred from other schools. A sector model would count only those transfers from the schools in the other sector, public or private. All of these models would count other types of newly hired teachers—that is, first-time teachers and reentrants—in the same way.

This report uses a district-level model to define which transfers to count as newly hired teachers. In this model, all teachers who transferred between public and private schools are counted as newly hired teachers, reflecting movements between the public and private school labor markets. All teachers who transferred from one state to another state were counted as newly hired, reflecting movements between state labor markets. In addition, those teachers who stayed within the same state and sector but moved from another school system (public school teachers) or private school (private school teachers) are included, reflecting movements between employers in the same state and same sector. The inclusion of teachers who stayed within the same state and sector (i.e., private to private or public to public within the same state) represents a departure from previous work by the authors (Rollefson and Broughman 1994 and 1995; Rollefson 1993a) and ensures the estimates in this paper are comparable to those of *The Condition of Education 1994* (NCES 1994a). Other NCES reports using the same data source may present different estimates of the numbers and percentages of newly hired teachers because of these model differences. For example, *Teacher Supply, Teacher Quality, and Teacher Turnover* (Ingersoll and Bobbitt 1995) uses a school-level model of newly hired teachers and reports estimates of sources of new hires substantially higher than those reported here, while *Predicting the Need for Newly Hired Teachers in the United States to 2008–09* (Hussar 1999) uses a sector-level model and reports estimates of public school new hires lower than those reported here.[1]

Source of Data

The data for this report are from the 1987–88, 1990–91, and 1993–94 Schools and Staffing Survey (SASS). SASS is a multilevel linked survey of public and private schools, principals, and teachers, and public school districts. Although information on supply and demand factors is obtained from each survey level or component, this analysis used data from only the Public and Private School Teacher Surveys. The technical characteristics of this survey are presented in the Technical Notes at the end of this report.

Data for this analysis are from those teachers in the SASS sample who indicated that they were newly hired in that state or sector that school year, that they taught half-time or more, and that they were regular teachers, that is they were neither itinerant[2] nor long-term substitute teachers. The samples consisted of 2,479 public and 1,123 private teachers in 1987–88, 3,458 public and 1,159 private teachers in 1990–91, and 4,068 public and 1,435 private teachers in 1993–94. Each newly hired teacher was classified as one of four types, based on years of teaching experience and primary activity in the prior year. The four types of new hires are:

1. **Newly Prepared Teacher**—a first-year teacher who in the previous year was attending college or had earned his or her highest degree;

2. **Delayed Entrant**—a first-year teacher who in the previous year had engaged in other activities in the year or years between graduating from college or receiving his or her highest degree and becoming a teacher;

[1] While the inclusion of teachers who stay within the public sector results in estimates of new hires that are higher than those reported in *Predicting the Need for Newly Hired Teachers in the United States to 2008–09* (Hussar 1999), other exclusions, such as excluding teachers who work less than half time (see below), result in estimates of first-time teachers that are lower than those reported by Hussar (1999).

[2] Teachers whose assignment requires them to provide instruction at more than one school.

3. **Transfer**—a teacher who in the previous year was teaching in another school either in the other sector (public or private), in another state, or within the same state and sector but in another school system (public school teachers) or private school (private school teachers); or

4. **Reentrant**—a teacher who in the previous school year was not teaching elementary or secondary school, but who had taught in the past.

Newly prepared teachers and delayed entrants are further classified as **first-time teachers**, and transfers and reentrants as **experienced teachers**.

The data were analyzed to produce national estimates of each of the four types of new hires in terms of basic demographic characteristics, teaching qualifications, career paths, and former occupations. Selected findings are discussed with attention to the characteristics that distinguish the different types of new hires, in particular those characteristics that might suggest adjustments to teacher shortages, and to changes in characteristics of supply sources over time. All differences cited in the text have been tested with the *t* statistics at the .05 level of significance, adjusted for multiple comparisons. Tables of standard errors are in the appendix.

Results

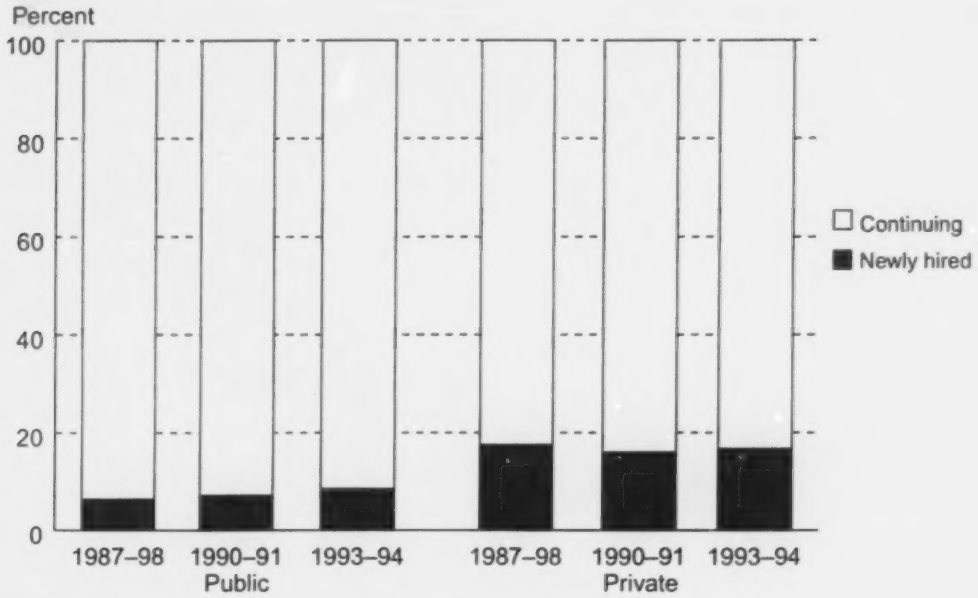
In 1993–94 about 2.4 million public and 337,000 private school teachers were teaching half-time or more; an increase of 280,000 public and 53,000 private school teachers since 1987–88 (table 1). Between these two points in time, the percentage of private school teachers who were newly hired remained stable at about 17 to 18 percent, while that for public school teachers increased from 6 to 9 percent (table 1 and figure 1). While the percentage of teachers who were newly hired was greater in private than in public schools, the absolute numbers of both newly hired and continuing public school teachers were greater for public schools than for private schools. This paper focuses on the 184,000, 223,000, and 259,000 public and private teachers newly hired in school years 1987–88, 1990–91, and 1993–94, respectively.

Table 1.—Percentage distribution of newly hired and continuing public and private school teachers: School years 1987–88, 1990–91, and 1993–94

	1987–88		1990–91		1993–94	
Status of teachers	Number	Percent	Number	Percent	Number	Percent
Public						
Total	**2,114,649**	**100.0**	**2,356,184**	**100.0**	**2,394,542**	**100.0**
New hires	134,820	6.4	170,563	7.2	202,679	8.5
Continuing	1,979,829	93.6	2,185,620	92.8	2,191,863	91.5
Private						
Total	**283,922**	**100.0**	**327,130**	**100.0**	**337,228**	**100.0**
New hires	49,671	17.5	52,288	16.0	56,188	16.7
Continuing	234,251	82.5	274,843	84.0	281,040	83.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Figure 1.—Percentage distribution of newly hired and continuing teachers, by sector: School years 1987–88, 1990–91, and 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Between 1987–88 and 1993–94 a shift in sources of newly hired teachers occurred as public school districts and private schools hired relatively fewer reentrants and relatively more first-time teachers. Whereas in 1987–88 the proportion of reentrants equaled (public) or surpassed (private) that of first-time teachers, by 1993–94 it was first-time teachers who predominated, filling 46 percent of public and 42 percent of private school newly hired positions (table 2 and figure 2). Among the first-time teachers there was increased hiring of both newly prepared (8 to 7 percentage point increase) and delayed entrant groups (7 to 10 percentage point increase). The rate at which positions were filled by teachers transferring from schools in other states, sectors, or systems in 1993–94 remained the same for private schools as in 1988, but declined for public schools.

The relative increase in the hiring of first-time teachers was driven by an increase in the absolute number of first-time teachers, both newly prepared and delayed entrants, with the number of reentrants remaining stable for public schools and declining for private schools (tables 3 and 4). The relative decrease in the hiring of transfers in the public sector occurred in spite of an increase in the number of transfers hired by the public sector. The decline in the relative size of the reentrant groups represents a significant change from 1987–88 when reentering teachers were filling approximately a third of the demand for new hires.

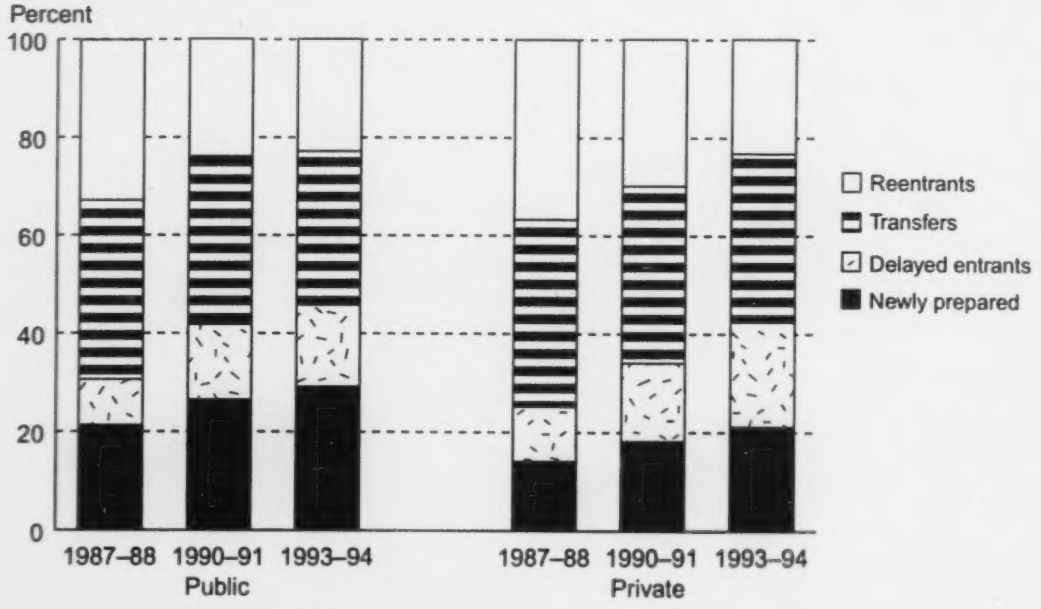
In 1993–94, the public sector hired more teachers from every source than the private sector. The relative contributions of first-time teachers, transfers, and reentrants to the supply of newly hired teachers were similar and the relative importance of them as sources were the same (first-time teachers, followed by transfers, followed by reentrants) in both sectors (table 2). Of the two types of first-time teachers, the public sector hired relatively more newly prepared teachers and fewer delayed entrants than the private sector.

Table 2.—Percentage distribution of newly hired public and private school teachers, by supply source: School years 1987–88, 1990–91, and 1993–94

Source	Public			Private		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Total percent	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**134,820**	**170,563**	**202,679**	**49,671**	**52,288**	**56,188**
First time teachers total	30.6	41.7	45.8	25.2	34.0	42.4
Newly prepared	21.3	26.5	29.2	14.1	18.2	21.1
Delayed entrants	9.3	15.3	16.6	11.1	15.9	21.4
Transfers total	36.5	34.3	31.4	38.1	36.1	34.3
Within state and sector	20.8	21.6	20.2	19.0	18.1	14.6
Across state	8.3	7.1	7.1	8.3	7.0	11.5
Across sector	7.5	5.6	4.1	10.8	11.0	8.1
Reentrants total	32.8	24.0	22.9	36.7	29.9	23.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Figure 2.—Percentage distribution of newly hired teachers, by sector and supply source: School years 1987–88, 1990–91, and 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990-91, and 1993–94 (Teacher Questionnaire).

Table 3.—Newly hired public school teachers, by supply source and by selected demographic characteristics: School years 1987–88, 1990–91, and 1993–94

Characteristics	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990 -91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Number new hires	**134,820**	**170,563**	**202,679**	**28,676**	**45,165**	**59,098**	**12,593**	**26,012**	**33,655**	**49,274**	**58,512**	**63,597**	**44,277**	**40,874**	**46,330**
Percent female	78.0	77.4	72.5	78.8	78.9	72.9	71.0	75.5	70.0	77.2	72.7	71.0	80.4	83.8	76.1
Percent minority	9.7	11.2	16.0	8.7	13.1	18.0	12.1	14.8	18.4	9.9	10.7	13.0	9.4	7.6	16.0
Age															
Mean all	34.1	34.3	33.9	27.9	28.5	28.4	31.3	31.8	32.8	35.1	35.7	35.8	37.8	40.3	39.1
Mean male	34.7	34.5	34.1	29.8	28.3	28.6	31.8	32.7	34.4	35.7	36.4	35.7	38.0	40.4	39.1
Mean female	33.9	34.2	33.8	27.4	28.5	28.3	31.1	31.5	32.0	34.9	35.4	35.8	37.7	40.3	39.1
Percent at age															
Less than 25	13.3	14.1	12.7	48.2	42.9	35.0	11.1	11.8	7.4	2.8	1.6	2.9	2.9	1.9	1.6
25–29	23.7	24.2	30.2	26.3	27.7	37.0	38.4	34.8	40.0	26.8	27.1	28.5	14.4	9.5	16.7
30–34	17.8	16.8	15.3	9.2	12.2	10.0	22.9	19.2	17.2	23.2	21.9	18.9	15.8	13.2	15.5
35–39	19.8	15.3	13.3	8.5	6.4	9.0	15.1	20.3	12.4	20.4	18.2	16.4	27.7	18.1	15.2
40–44	14.1	15.9	12.8	4.5	6.6	5.7	9.1	9.2	10.5	14.6	15.8	14.7	21.2	30.7	20.9
45–49	6.6	7.8	10.0	1.6	2.5	2.5	2.8	2.6	10.3	6.1	9.3	10.9	11.3	14.6	18.0
50 or more	4.8	5.8	5.8	1.7	1.8	0.8	0.6	2.1	2.2	6.0	6.0	7.6	6.7	12.2	12.2
Percent 35 or more	45.2	44.8	41.8	16.4	17.3	17.9	27.7	34.2	35.4	47.1	49.4	49.7	66.9	75.5	66.3
Marital status															
Percent married	66.4	62.4	58.3	44.6	44.8	42.5	68.5	61.4	57.9	69.9	68.3	65.0	76.2	74.1	69.5
Dependents															
Percent with any	50.5	51.3	45.1	21.8	29.3	28.8	48.7	46.0	43.2	53.3	56.5	49.2	66.5	71.6	61.9
Percent with any less than 5 years	19.5	17.1	16.3	7.1	9.2	12.7	27.0	19.5	13.6	20.0	20.3	17.5	25.0	19.9	21.3
Income/salary[1]															
Base year salary	25,268	25,591	25,136	22,421	22,693	22,288	21,982	22,901	23,006	27,024	27,119	27,221	26,202	28,316	27,455
Total year round income	27,793	27,862	27,910	24,769	24,958	25,080	25,238	25,518	27,492	29,230	29,162	29,695	28,970	30,702	29,991
Percent moonlighting	14.3	16.8	20.7	15.7	15.1	18.6	19.4	19.4	25.7	12.2	15.9	19.7	14.2	18.4	21.0
Family income[2]															
Percent at less than $25,000	34.9	19.3	12.5	57.3	32.5	20.8	45.0	23.2	14.1	27.9	13.7	7.6	25.0	10.2	7.3
Percent at $25,000 but less than $50,000	41.2	45.2	48.2	28.7	44.2	53.8	40.4	48.6	49.7	45.7	49.3	46.9	44.7	38.3	41.7
Percent at $50,000 or more	23.9	35.5	39.3	14.1	23.2	25.3	14.6	28.3	36.2	26.4	37.0	45.5	30.2	51.5	50.9

[1] 1987–88 and 1990–91 dollars adjusted to 1993–94 dollars using Consumer Price Index.
[2] 1987–88 and 1990–91 dollars are not adjusted to 1993–94.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 4.—Newly hired private school teachers, by supply source and by selected demographic characteristics: School years 1987–88, 1990–91, and 1993–94

Characteristics	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Number new hires	**49,671**	**52,288**	**56,188**	**7,005**	**9,502**	**11,830**	**5,520**	**8,290**	**12,016**	**18,940**	**18,856**	**19,266**	**18,206**	**15,640**	**13,076**
Percent female	79.5	75.4	76.7	78.2	75.3	73.7	69.6	71.8	72.6	80.9	72.7	80.4	81.6	80.6	77.7
Percent minority	6.9	8.5	11.1	3.0	8.5	12.0	9.5	5.0	12.6	5.7	11.3	12.1	9.0	6.9	7.4
Age															
Mean all	35.2	35.4	34.4	25.4	27.9	27.6	31.0	31.5	31.9	36.7	37.5	36.6	38.6	39.4	39.7
Mean male	34.8	34.8	34.9	26.7	27.7	27.4	34.0	30.3	35.0	37.8	37.4	38.4	35.6	39.4	38.2
Mean female	35.3	35.6	34.3	25.0	28.0	27.7	29.7	32.0	30.8	36.5	37.6	36.1	39.3	39.4	40.1
Percent at age															
Less than 25	12.2	11.3	17.2	61.6	41.5	51.6	11.7	13.8	17.2	3.2	3.4	6.3	2.6	1.0	2.2
25–29	22.7	25.7	25.9	28.2	33.5	28.1	32.4	46.8	34.1	24.7	22.8	26.4	15.7	13.2	15.7
30–34	13.8	14.1	13.5	2.3	11.2	3.3	28.6	6.5	17.0	11.2	18.0	17.7	16.6	15.1	13.5
35–39	20.2	16.3	12.1	5.9	3.7	6.2	15.1	16.3	11.7	24.6	16.2	12.4	22.5	24.1	17.2
40–44	14.1	14.1	11.6	2.0	5.5	4.9	3.6	6.0	10.3	15.6	15.8	12.1	20.4	21.7	18.0
45–49	7.8	9.3	12.0	0.0	4.1	5.5	3.6	5.7	5.3	11.0	11.5	14.3	8.9	11.6	20.6
50 or more	9.1	9.2	7.7	0.0	0.6	0.3	5.0	4.8	4.4	9.6	12.3	10.8	13.3	13.1	12.9
Percent 35 or more	51.2	49.0	43.3	7.9	13.9	16.9	27.4	32.9	31.7	60.8	55.8	49.6	65.1	70.6	68.7
Marital status															
Percent married	56.2	59.3	57.6	28.9	33.8	39.2	63.4	58.1	54.6	58.5	61.8	61.6	62.2	72.3	71.3
Dependents															
Percent with any	41.5	44.4	41.0	9.3	18.1	18.1	43.7	31.3	38.3	44.7	45.0	42.5	49.9	66.4	61.9
Percent with any less than 5 years	12.3	13.9	13.4	4.5	4.4	5.7	21.9	11.3	15.9	11.3	14.2	13.1	13.3	20.7	18.4
Income/salary[1]															
Base year salary	17,334	17,926	16,976	16,087	15,534	15,948	14,373	15,978	14,470	18,809	20,188	18,996	17,156	17,685	17,236
Total year round income	19,995	20,540	19,724	19,702	18,310	18,913	18,533	18,633	18,339	20,761	22,429	21,137	19,742	20,626	20,217
Percent moonlighting	24.2	27.1	27.3	25.9	26.6	26.3	27.8	28.1	30.3	20.8	25.9	24.4	26.1	28.2	29.8
Family income[2]															
Percent at less than $25,000	42.5	32.8	27.7	68.9	52.6	38.3	48.1	39.4	28.7	41.0	28.3	26.5	32.5	22.6	18.9
Percent at $25,000 but less than $50,000	41.8	38.9	40.2	19.1	31.0	40.1	44.0	38.7	37.4	43.1	42.3	40.6	48.4	39.7	42.4
Percent at $50,000 or more	15.7	28.4	32.1	12.0	16.5	21.6	7.9	21.8	33.9	16.0	29.5	32.9	19.1	37.7	38.7

[1] 1987–88 and 1990–91 dollars adjusted to 1993–94 dollars using Consumer Price Index.
[2] 1987–88 and 1990–91 dollars are not adjusted to 1993–94.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Demographic Characteristics

Demographically, newly hired teachers in 1993–94 were somewhat different from those in 1987–88. Like the public and private school teacher workforces as a whole (table 5), they were predominately female and predominately white non-Hispanic, although less so than the teacher workforces as a whole. The percent of newly hired teachers who were minority increased in public and private schools (tables 3 and 4). The percent of minority newly prepared teachers doubled in the public sector and quadrupled in the private sector, and there were relative increases in the numbers of minority public reentrants and private transfers. The apparent increases in the percent of delayed entrants who were minority were not significant. The percent of new hires who were female was unchanged in private schools from 1987–88 to 1993–94, but decreased for public transfers.

Table 5.—Selected demographic characteristics of newly hired and total public and private school teachers: School year 1993–94

	Public		Private	
Characteristics	New hires	All	New hires	All
Percent female	72.5	72.9	76.7	76.5
Percent minority	16.0	13.7	11.1	7.9
Mean age	33.9	43.1	34.4	41.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

The age distribution of new hires in school year 1993–94 was also similar to that in 1987–88, with only a slight aging of public delayed entrants (a year and a half), reentrants (over one year), and private newly prepared teachers (over two years). In the public sector, 35 percent of newly prepared teachers in 1993–94 were under the age of 25 , and another 47 percent were between 25 and 34. Delayed entrants, like the newly prepared teachers, were also concentrated in the 25 to 34 year range, but with fewer (one fifth) under 25 and more (double) over the age of 35. Transfers and reentrants were more likely to be 35 or older than both types of first-time teachers, with reentrants older than transfers. In the private sector the age distribution was quite similar to that of the public new hires with the exception that relatively more private newly prepared teachers were under the age of 25 and relatively fewer were between 25 and 34.

Coincident with being younger than the other sources of new hires in 1993–94, relatively fewer newly prepared teachers in both sectors were married or had any dependents, although the percent of newly prepared teachers with any dependents increased from 1987–88.

In both sectors, inexperienced teachers (the newly prepared and delayed entrants) had lower base salaries than experienced teachers (transfers and reentrants) reflecting the reliance on experience for most salary schedules. All four types of public newly hired teachers had higher base year salaries than their private counterparts with the difference being as much as $10,000 a year for reentrants. Base year salaries in both sectors, after adjusting for changes in the cost of living, did not change between 1987–88 and 1993–94. In spite of inexperienced teachers having lower base salaries, there were no differences in the percent of public and private teachers moonlighting between any of the four types of newly hired teachers, and only the public experienced new hires, both types, increased the rate at which they held secondary jobs between 1987–88 and 1993–94.

Teacher Qualifications

Teacher qualifications are an important aspect of teacher supply and demand, since imbalances in supply and demand conditions are often resolved through adjustments in teacher qualifications (Gilford and Tenenbaum 1990; Boe and Gilford 1992). It is important, therefore, to compare the qualifications of teachers coming from different supply sources. Available data in SASS on qualifications are degree attainment, major or minor field of study, and certification status. These measures are limited, however; as they do not directly measure how well a teacher teaches students in the classroom. In addition, certification or licensure requirements vary greatly from state to state, and are themselves undergoing a serious reexamination as the profession moves to establish national standards for teacher education and credentials. Continued research is needed to develop measures of teacher qualifications that better distinguish among teachers along various quality dimensions, and that will reflect the new standards for teacher credentialing as they develop.

Degree attainment in the teacher workforce is largely a function of age and experience, and this is apparent from these data on newly hired teachers. In 1993–94 experienced teachers (transfers and reentrants) were more likely to have degrees beyond a bachelor's than inexperienced teachers (newly prepared and delayed entrants) (table 6). About 32 percent to 36 percent of public experienced teachers (transfers and reentrants) held degrees beyond a bachelor's compared with about 12 to 14 percent of public new inexperienced teachers (newly prepared and delayed entrants). In the private sector, experienced teachers were also more likely to hold higher degrees than first time teachers. The percent of teachers who held degrees beyond a bachelor's was similar in the public and private sectors for each of the four types of hires.

A more telling set of qualifications than highest degree is the teacher's qualifications (college major or minor and certification) in his or her primary teaching assignment field (the field in which a teacher spends most of his or her time teaching). Table 7 shows all combinations of major or minor and certification in the primary assignment field. When these more specific qualifications are examined, some interesting differences by source and by sector emerge, especially among first-time teachers (figure 3). In 1993–94 in both sectors, delayed entrants were less likely than newly prepared teachers to hold qualifications in their primary field of assignment. Public school delayed entrants were less likely than the newly prepared to have college majors or minors in their primary assignment field (regardless of certification) (65 versus 79 percent). Only 55 percent of public delayed entrants held the standard credential (i.e., major or minor with certification) compared to 68 percent of newly prepared teachers. Private school delayed entrants were also less likely to have college majors or minors in their primary assignment field (regardless of certification) (53 versus 66 percent) or to hold standard certification (regardless of major or minor) (35 versus 45 percent) than were newly prepared teachers. (It should be noted here that only a few states require certification for private school teachers.). About 25 percent of private delayed entrants held the standard credential (i.e., major or minor with certification) compared to 39 percent of newly prepared teachers.

In each sector, experienced new hires (that is, transfers and reentrants) held virtually the same qualifications as each other, with the exception of transfers holding standard certification at a higher rate (90 percent) than reentrants (84 percent) in the public sector, and were very similar to newly prepared teachers. This similarity in qualifications between the newly prepared and experienced teachers (transfers and reentrants) suggests a standardization of criteria (i.e., a major or minor plus certification in the teaching assignment field) that characterizes the usual path into the teaching profession, especially in the public sector. In contrast, the less than standard credentials of many delayed en-

Table 6.—Percent of newly hired public and private school teachers, by supply source, highest degree earned, and average years of teaching experience: School years 1987–88, 1990–91, and 1993–94

Highest degree earned and years of teaching experience	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public															
Total number	**134,820**	**170,563**	**202,679**	**28,676**	**45,165**	**59,098**	**12,593**	**26,012**	**33,655**	**49,274**	**58,512**	**63,597**	**44,277**	**40,874**	**46,330**
BA/BS or less	69.6	73.3	75.8	87.9	91.5	87.7	89.5	87.3	86.5	62.9	66.4	67.7	59.8	54.3	64.3
MA/MS or more	30.4	26.7	24.2	12.1	8.5	12.3	10.5	12.7	13.5	37.1	33.6	32.3	40.2	45.7	35.7
MA/MS	26.2	22.6	21.1	11.2	6.7	11.1	9.0	11.2	9.6	32.8	29.6	28.1	33.3	37.4	32.4
Ed. Spec.	3.5	3.5	2.4	0.9	1.6	1.1	1.0	0.5	3.2	3.6	3.7	2.9	5.6	7.2	2.7
PhD/FPD[1]	0.7	0.6	0.7	—	0.3	0.1	—	1.0	0.7	0.7	0.3	1.3	1.2	1.1	0.6
Years of teaching experience	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	8.5	8.4	7.5	8.1	9.1	8.4
Private															
Total number	**49,671**	**52,288**	**56,188**	**7,005**	**9,502**	**11,830**	**5,520**	**8,290**	**12,016**	**18,940**	**18,856**	**19,266**	**18,206**	**15,640**	**13,076**
BA/BS or less	71.7	73.4	71.7	92.8	87.9	86.2	84.2	83.2	81.5	66.0	67.2	66.6	66.2	67.5	57.9
MA/MS or more	28.3	26.6	28.3	7.2	12.1	13.8	15.8	16.8	18.5	34.0	32.8	33.4	33.8	32.5	42.1
MA/MS	25.0	21.6	23.9	6.5	10.5	11.6	15.3	14.2	16.5	31.5	26.2	27.0	28.0	26.2	36.6
Ed. Spec.	2.4	3.2	2.8	—	0.8	1.4	—	0.4	—	2.2	4.6	3.9	3.8	4.0	4.6
PhD/FPD[1]	0.9	1.8	1.6	—	—	—	—	—	1.6	—	1.9	2.4	2.0	2.3	0.9
Years of teaching experience	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	([2])	10.6	10.0	8.3	8.7	8.3	8.4

— Too few sample observations for a reliable estimate.
[1] Doctorate or first professional degree.
[2] Not applicable.
NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

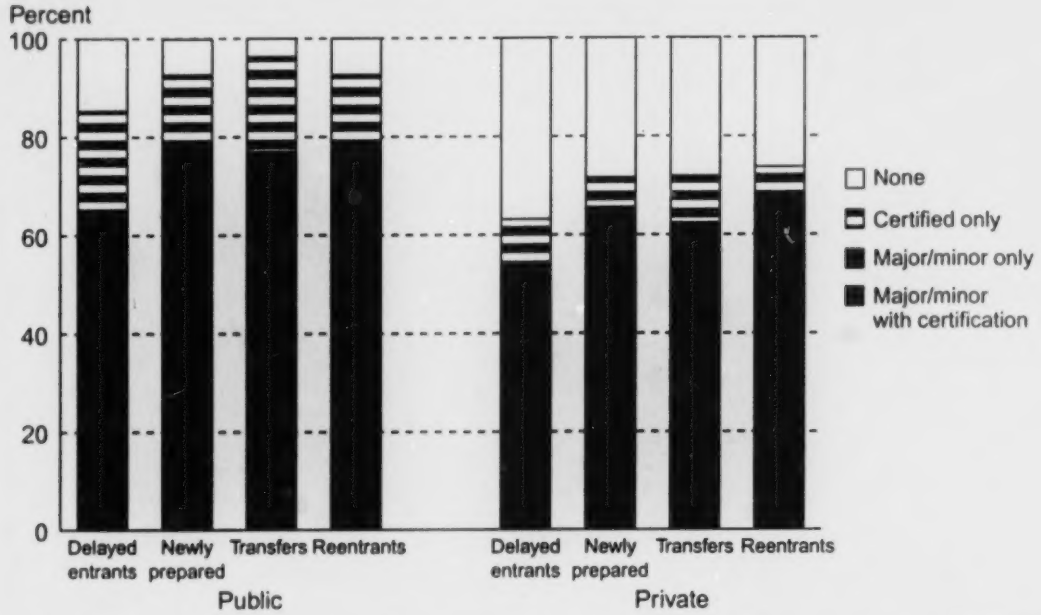
Table 7.—Percentage distribution of newly hired public and private school teachers, by supply source and by various qualifications in primary assignment field: School years 1987–88, 1990–91, and 1993–94

Characteristics	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Major/minor with certification[1]	57.8	66.8	67.3	64.9	67.4	68.2	36.3	48.9	54.8	61.9	74.1	70.9	54.7	67.2	70.1
Certified[1] only	10.0	14.1	16.7	6.8	12.5	14.0	12.1	16.5	20.1	9.9	11.9	19.3	11.5	17.5	13.9
Major/minor without certification[1]	11.9	12.0	8.7	11.1	14.0	10.4	19.8	17.6	10.4	10.2	9.3	6.1	11.9	10.2	8.6
None of the above	20.4	7.0	7.4	17.2	6.1	7.3	31.8	17.0	14.7	18.0	4.7	3.7	21.8	5.1	7.4
Percentage who held the following qualifications[2]:															
Certification[1]	67.8	80.9	83.9	71.7	79.9	82.2	48.4	65.4	74.9	71.8	86.0	90.2	66.3	84.7	84.0
Major or minor	69.7	78.9	75.9	76.0	81.4	78.7	56.1	66.5	65.2	72.1	83.4	77.0	66.7	77.4	78.7
Temporary/emergency certification	12.1	13.2	8.0	12.1	13.2	9.9	26.0	24.3	12.0	9.3	11.2	4.2	11.7	9.8	8.3
Private	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Major/minor with certification[1]	35.8	38.5	35.5	39.9	43.8	39.3	19.1	29.4	24.7	36.3	38.6	35.8	38.9	40.1	41.8
Certified[1] only	7.6	11.1	8.3	3.0	10.6	6.0	5.9	8.1	10.2	10.1	10.6	9.5	7.3	13.8	6.7
Major/minor without certification[1]	27.9	29.2	26.6	35.0	27.3	26.3	24.1	23.4	28.3	23.8	32.2	26.6	30.6	29.7	25.2
None of the above	28.6	21.1	29.6	22.1	18.3	28.4	50.8	39.2	36.8	29.8	18.6	28.1	23.2	16.3	26.3
Percentage who held the following qualifications[2]:															
Certification[1]	43.4	49.7	43.8	42.9	54.4	45.3	25.1	37.4	34.9	46.4	49.2	45.4	46.2	54.0	48.5
Major or minor	63.8	67.7	62.1	74.9	71.1	65.5	43.2	52.7	53.0	60.1	70.8	62.4	69.5	69.8	67.0
Temporary/emergency certification	10.5	14.0	4.6	16.4	15.2	6.2	7.5	12.7	6.1	9.6	12.6	3.8	9.9	15.2	3.7

[1] Certification includes the holding of an advanced, regular, alternative, provisional, or probationary teaching certificate.
[2] The following categories overlap and do not sum to 100.0 percent.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Figure 3.—Percentage distribution of newly hired teachers, by sector, supply source, and qualifications in primary assignment field: 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

trants, in particular the lower rate at which they had a major or minor with certification (about 55 percent versus 71 and 70 percent for public transfers and reentrants, respectively, and 25 versus 36 to 42 percent for private transfers and reentrants, respectively), suggests that fewer of them prepared in advance to enter teaching. The percent of public sector delayed entrants, transfers, and reentrants holding a major or minor plus certification in the main teaching assignment field did increase between 1987–88 and 1993–94.

Career Patterns of Newly Hired Teachers

The prior year activities of newly hired teachers portray differences in the career paths of teachers as they enter, transfer, and reenter teaching. The prior year activities of the three types of new hires in 1993–94 who were not teaching in the prior year (newly prepared teachers, delayed entrants, and reentrants) are presented first, followed by an examination of substitute teaching and occupational transfer as routes into teaching.

Newly Prepared teachers were defined as those first time teachers who were attending college or had earned their highest degree in the previous year. Almost 85 percent of newly prepared teachers (84 percent of public and 85 percent of private) had been in college in the previous year, and the remainder had earned their highest degree during 1992–93 and were engaged in other activities (table 8).

Delayed entrants had more diverse experiences prior to their first year of teaching than did newly prepared teachers (figure 4). The vast majority of them (over 80 percent of both public and private) were working in the previous year with the greatest proportion of the public delayed entrants work-

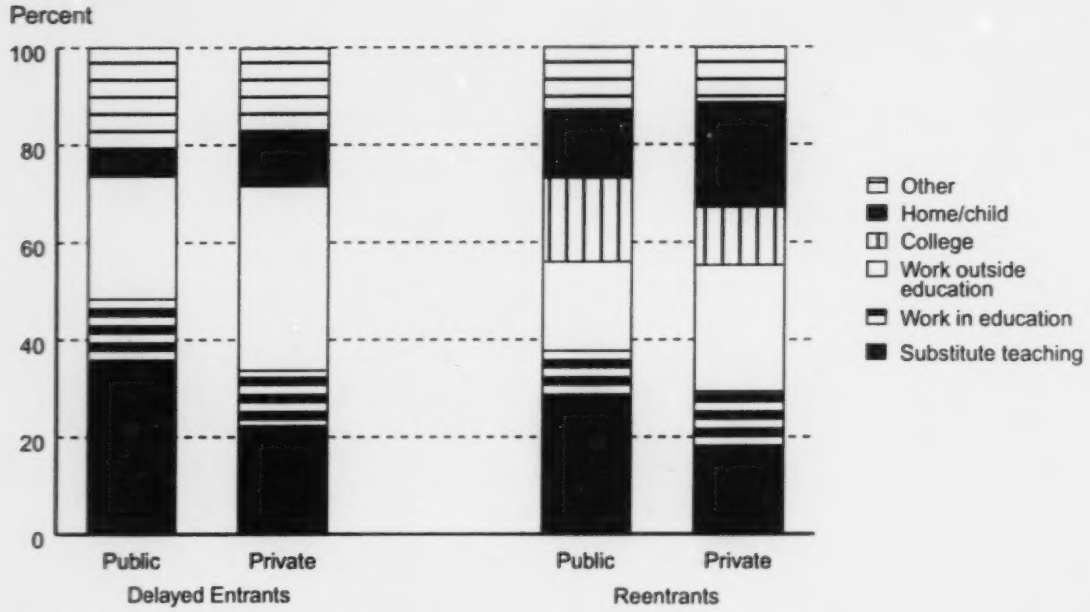
Table 8.—Percentage distribution of newly hired public and private school teachers, by supply source and by prior year activity: School years 1987–88, 1990–91, and 1993–94

Characteristics	Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public												
Teaching												
Public, other system	(1)	(1)	(1)	(1)	(1)	(1)	79.4	83.7	(2)	(1)	(1)	(1)
Private	(1)	(1)	(1)	(1)	(1)	(1)	20.6	16.3	(2)	(1)	(1)	(1)
Postsecondary	—	0.1	1.5	4.2	3.0	2.7	(1)	(1)	(1)	2.6	3.9	2.6
Preschool	(2)	0.4	—	(2)	2.1	5.0	(1)	(1)	(1)	(2)	3.6	2.2
Substitute	(2)	2.4	5.9	(2)	45.2	35.7	(1)	(1)	(1)	(2)	23.8	28.2
Working, non-teaching	1.5	4.2	6.4	51.1	34.2	37.9	(1)	(1)	(1)	27.6	37.0	27.8
In education	1.1	2.7	3.1	16.1	9.6	12.7	(1)	(1)	(1)	10.2	19.1	9.5
Outside education	0.5	1.6	3.3	35.0	24.6	25.2	(1)	(1)	(1)	17.4	17.9	18.3
College	95.7	92.1	83.7	(1)	(1)	(1)	(1)	(1)	(1)	18.0	10.4	17.2
Caring for family members	—	—	0.3	10.9	11.8	5.1	(1)	(1)	(1)	27.8	19.3	13.9
Other	2.0	—	0.4	33.9	3.7	8.1	(1)	(1)	(1)	23.9	2.0	3.4
Total number of new hires	28,676	45,165	59,098	12,593	26,012	33,655	49,274	58,512	63,597	44,277	40,874	46,330
Private												
Teaching total												
Public	(1)	(1)	(1)	(1)	(1)	(1)	71.5	69.6	(2)	(1)	(1)	(1)
Private, in same state	(1)	(1)	(1)	(1)	(1)	(1)	28.5	30.4	(2)	(1)	(1)	(1)
Postsecondary	0.0	—	3.0	—	5.3	5.1	(1)	(1)	(1)	1.6	5.7	5.4
Preschool	(2)	—	—	(2)	2.0	5.8	(1)	(1)	(1)	(2)	5.8	3.3
Substitute	(2)	2.4	7.9	(2)	23.1	22.3	(1)	(1)	(1)	(2)	18.7	18.1
Working non-teaching	4.2	5.7	3.2	61.3	53.8	49.3	(1)	(1)	(1)	30.1	37.7	37.2
In education	—	2.7	1.6	10.0	13.1	11.4	(1)	(1)	(1)	8.9	11.7	11.2
Outside education	3.4	3.0	1.6	51.3	40.7	37.9	(1)	(1)	(1)	21.2	26.1	26.0
College	92.6	91.3	84.5	(1)	(1)	(1)	(1)	(1)	(1)	20.0	5.6	11.9
Caring for family members	—	0.0	0.8	15.8	12.5	10.8	(1)	(1)	(1)	28.6	23.1	21.4
Other	2.1	0.0	—	22.5	3.3	6.8	(1)	(1)	(1)	19.7	3.4	2.8
Total number of new hires	7,005	9,502	11,830	5,520	8,290	12,016	18,940	18,856	19,266	18,206	15,640	13,076

— Too few sample cases for a reliable estimate.
[1] Not applicable.
[2] Data not available.
NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Figure 4.—Percentage distribution of delayed entrants and reentrants, by sector and prior year activities: 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

ing as substitute teachers[3] (36 percent) and in work outside the field of education (25 percent). Private delayed entrants were working mostly in occupations outside education (38 percent), and then as substitute teachers (22 percent).

Reentrants, having taken a break from teaching, are also more diverse in their prior year experiences than newly prepared teachers (figure 4). About two-thirds of the reentrants were working in the prior year: primarily in substitute teacher positions (28 percent public and 18 percent private) and in non-teaching jobs outside education (18 percent public and 26 percent private). Some reentrants (17 percent public and 12 percent private) had been attending college the previous year and another 14 percent (public) and 21 percent (private) were caring for family members.

Substitute teaching can be a means of obtaining regular employment in a school system and in school year 1993–94 it appears that many new hires may have gained access to teaching jobs through substitute positions. Many delayed entrants (36 percent of public and 22 percent of private delayed entrants) were substitute teachers in the previous year, as were 28 percent of public and 18 percent of private reentrants. Unfortunately, substitute teaching was not a response option to that parallel item in the 1987–88 survey, and therefore it is not possible to compare the two years. Between 1990–91 and 1993–94 there was a decline in the percent of public delayed entrants who were substitute teaching in the prior year, but no significant change for private delayed entrants or public and private reentrants.

[3] Although substitute teaching may be considered a form of teaching experience, the survey distinguishes employment as a regular teacher as distinct from that as a substitute teacher and we do not know the duration or intensity of the substitute teaching experience.

The phenomenon of occupational transfer has captured the interest of policy makers and teacher supply and demand researchers. Occupational transfers may reflect various career strategies, but these data suggest two in particular, one a recruiting strategy used by educational policy makers, and the other a career strategy used by individuals. The first is a policy strategy developed in many states to the anticipated teacher shortage of the last decade. To actively recruit needed teachers, states developed alternative-route certification and licensure programs to prepare individuals who lacked education degrees. Many of these programs were targeted at individuals of minority group membership, and others at individuals in high skill fields and occupations, particularly in mathematics and sciences. These programs differ in the extent to which they provide education and supervision of the alternative-route candidates (Feistritzer and Chester 1991), but by the early 1990s as many as 43 states had some form of alternative-route program (American Association of Colleges for Teacher Education 1993). Although the data are not available in SASS to indicate which new hires entered teaching through such alternative routes, many delayed entrants may have. What suggests this is the large proportion of delayed entrants who transferred from non-teaching occupations without having the standard teacher education background.

The large proportions of reentrants who transferred from other occupations, both within and outside education, may have used the second strategy of holding another job until a teacher position becomes available, much like those who substitute teach to gain entry to regular teaching positions. Reentrants had taught in the past and were more likely than delayed entrants to hold standard teacher qualifications.

Among both delayed entrants and reentrants, working in non-teaching occupations was a major prior year activity. Over a third of public and almost half of private delayed entrants, and a fourth of public and over a third of private reentrants transferred from occupations outside of education in 1993–94 (table 8). Most occupational transfers are from non-teaching occupations. Overall, occupational transfers occur more often in the private sector than in the public sector. Because of changes in the question, it is difficult to interpret changes in occupational transfers between 1987–88 and 1993–94. Between 1990–91 and 1993–94 there was a decline in the percent of public reentrants who changed occupations, but no significant change for public and private delayed entrants and private reentrants.

Those delayed entrants who transferred from occupations in education in 1993–94, as in 1987–88, came primarily from teacher aide positions (60 percent public and 61 percent private) (table 9). A change in the reference year for this item in the 1990–91 and 1993–94 questionnaires invalidates the comparison for prior year occupations for reentrants. The 1987–88 data, however indicate that a substantial portion of the reentrants from occupations in education (32 percent public and 36 percent private) came from teacher aide positions. The extent of transfer from teacher aide positions suggests that these positions may serve as an entry into teaching not only for inexperienced teachers but also, in spite of lower salaries, for those who have taught before.

Discussion

Although detailed trend data are not available, it is clear from a few data points that the relative contribution of the supply sources of newly hired teachers has changed dramatically in the past three decades. In the 1960s, 67 percent of public school new hires were new teacher graduates (National Education Association 1987); but by the administration of SASS in 1987–88 this source had shrunk

Table 9.—Percentage distribution of newly hired public and private teachers in an occupation the year prior to teaching, by supply source and by prior year occupation: 1987–88, 1990–91, and 1993–94

Characteristics	Newly prepared			Delayed entrants			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public									
Occupations in education	100.0	100.0	100.0	100.0	100.0	100.0	100.0	(*)	(*)
School professional	24.1	10.2	—	7.6	22.0	31.7	40.8	(*)	(*)
Teachers aide	64.8	89.8	94.0	65.0	66.8	59.8	31.4	(*)	(*)
Other staff	11.0	0.0	—	27.4	11.2	8.4	27.8	(*)	(*)
Total number	1,216	803	1,220	2,451	2,309	5,796	5,938	(*)	(*)
Occupations outside education	100.0	100.0	100.0	100.0	100.0	100.0	100.0	(*)	(*)
Professional (Mgr., Scientific)	32.5	—	38.4	43.3	38.7	46.1	44.0	(*)	(*)
Support (Tech., Sales, Admin.)	38.4	58.7	54.3	40.5	39.5	31.9	41.1	(*)	(*)
All other (Services, Mechanical, Construction, Farming)	29.0	35.7	7.3	16.2	21.8	21.9	14.9	(*)	(*)
Total number	1,293	930	1,137	4,710	7,261	9,221	8,365	(*)	(*)
Private									
Occupations in education	100.0	100.0	100.0	100.0	100.0	100.0	100.0	(*)	(*)
School professional	—	—	59.5	55.6	30.1	29.0	49.2	(*)	(*)
Teachers aide	74.7	—	36.0	30.7	58.4	61.1	35.5	(*)	(*)
Other staff	—	—	—	13.7	11.5	—	15.2	(*)	(*)
Total number	202	101	217	664	1,083	1,135	1,596	(*)	(*)
Occupations outside education	100.0	100.0	100.0	100.0	100.0	100.0	100.0	(*)	(*)
Professional (Mgr., Scientific)	46.2	21.1	69.9	40.9	39.6	35.7	32.4	(*)	(*)
Support (Tech., Sales, Admin.)	37.6	36.5	—	32.2	36.5	31.4	47.1	(*)	(*)
All other (Services, Mechanical, Construction, Farming)	—	42.4	—	26.9	23.9	32.9	20.5	(*)	(*)
Total number	535	822	212	2,694	3,015	4,955	4,063	(*)	(*)

— Too few sample observations for a reliable estimate.
* Data not available.
NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

to 21 percent. Between 1987–88 and 1993–94 there was another shift away from transfers and reentrants and back towards first-time teachers—a group composed of both new teacher graduates (newly prepared teachers) and delayed entrants. Whether this shift is supply or demand driven is not clear. For example, one supply scenario is that the reserve pool of teachers is shrinking, with the result that schools must turn increasingly to inexperienced teachers, regardless of their qualifications, to meet demand for new hires. An example of a demand scenario is that budget restrictions may push schools to hire the less expensive inexperienced teachers.[4]

[4] In 1993–94, the differences between average annual base salaries paid to first-time teachers (newly prepared and delayed entrants) compared with experienced teachers (transfers and reentrants) were $4,200 to $5,200 in public and $1,200 to $4,500 in private schools (tables 3 and 4).

The shift towards the hiring of first-time teachers between 1987–88 and 1993–94 reflects an increase (both relative and absolute) in the hiring of both newly prepared and delayed entrants in both public and private schools. Since the qualifications of the delayed entrants in their primary fields of assignment were less than those of other new hires, the increase in the hiring of delayed entrants, from 9 to 17 percent in public schools and 11 to 21 percent in private schools, may be indicative of an adjustment to shortages of teachers or a larger pool of delayed entrants.

Demographically and in terms of their qualifications to teach in their primary assignment field, newly hired teachers in 1993–94 were somewhat different from those in 1987–88. The percent of newly hired teachers who were minority increased in public and private schools and, in fact, the percent of minority newly prepared teachers at least doubled in both sectors (tables 3 and 4). There was only a slight aging of public delayed entrants (a year and a half) and private newly prepared teachers (over two years). The percent of public sector delayed entrants, transfers, and reentrants holding a major or minor plus certification in the main teaching assignment field did increase between 1987–98 and 1993–94.

In terms of teacher career paths, we should ask whether these different supply sources provide distinctly different types of teachers, different paths into the profession, or simply represent different stages of teacher's careers. Although preliminary, and needing further analysis, these data suggest that newly prepared and delayed entrants were indeed different from one another. The similarity of transfers and reentrants, however, suggested merely a difference in career stage.

Transfers and reentrants were remarkably similar across all variables examined in this report. In terms of their qualifications to teach (degrees earned, major or minor, and certification status in primary teaching field), they were virtually the same. Reentrants were about 3 years older on average than transfers, and public reentrants were more heavily concentrated in the 35 year and older age range. The combination of slight difference in age and similarity in length of teaching experience suggests that these two sources of new hires may just reflect different stages in the career paths of the same general type of teacher, i.e., before and after a break in service. Those reentrants who transferred from other occupations, however, (28 percent public and 37 percent private) may not have been following the typical teacher career path. More analyses of these occupational transfers, length and number of breaks in service, career plans and reasons for leaving and reentering teaching, are needed to determine whether they were exhibiting typical and planned moves in teachers' careers, or were being drawn unexpectedly back into the classroom by changes in educational policy, societal values regarding education, economic conditions, or personal circumstances.

When examining the newly prepared and the delayed entrant sources of new teachers, the data suggest that these two supply sources provide different types of teachers. The extent to which delayed entrants lacked the standard teaching credentials suggests that almost half of public and two-thirds of private delayed entrants did not plan to enter the teaching profession when they were earning their highest degrees. Over one-third of public and half of private delayed entrants transferred from other occupations, most outside the field of education. If a major or minor with certification in the primary assignment field is the desirable standard qualification to teach a field, the data suggest that many in this group (about 45 percent of public) may be in need of alternative teacher training programs. Further, the extent to which this pool of teachers was drawn upon to meet demand illustrates the type of adjustment in teacher qualifications made when supply and demand imbalances occur.

Continued reporting of data from the Schools and Staffing Survey (collection of the 1999–2000 SASS began in the fall of 1999) will verify the nature and magnitude of these apparent trends. The issues of teacher supply, demand, and shortage cannot be adequately addressed without better measures of teacher quality since shortages often take the form of decreasing quality of those hired rather than failure to fill vacancies. As the discussion on teacher preparation and credentialing shows, certification does not equal quality, even though preparation in field is an important part of teacher quality, major or minor in the teaching field alone does not go far enough (Boe and Gilford 1992). Improvement in this area requires research to define the dimensions of teacher quality and to develop methods to measure them.

Finally, for policy makers to be able to influence supply and demand balances and for schools to attract and retain the most qualified teachers, a better understanding of the factors that influence individuals' decisions to enter, leave and return to the teaching profession is needed.

Technical Notes

Data were analyzed using SAS procedures, primarily (e.g.) using percentage distributions and estimates of totals and means. The data were weighted to national estimates for both public and private school teachers, and standard errors for the estimates that takes the survey design into effect were produced using the Wesvar Procedure (Westat 1989). The estimates and standard errors are presented in tables 1–9 and 1A–9A. All comparisons of estimates in this paper were tested with a *t* statistic, at an alpha level of .05, using the Bonferonni adjustment for multiple comparisons.

The data for this report were collected from the Public and Private School Teacher Questionnaires of 1987–88, 1990–91, and 1993–94 Schools and Staffing Survey (SASS). The SASS consists of four component surveys, administered to districts, schools, principals, and teachers, which collect public and private sector data on the Nation's elementary and secondary teaching force, aspects of teacher supply and demand, teacher workplace conditions, characteristics of school administrators, and school policies and practices. The teacher questionnaires were sent to teachers in public and private schools. The two versions of the questionnaire (public and private) were virtually identical. The survey collected data from teachers regarding their education and training, teaching assignment, teaching experience, certification, teaching workload, perceptions and attitudes about teaching, job mobility, and workplace conditions. For details on the SASS see Abramson et al. (1996); Kaufman and Huang (1993); Kaufman (1991); the *Quality Profile for SASS* (NCES 1994b); and the *Quality Profile for SASS II* (NCES 2000). The SASS samples of teachers, selected from the SASS public and private school samples, contain 56,242 public and 11,529 private teachers for 1987–88, 56,051 public and 9,166 private teachers for 1990–91, and 47,109 public and 8,372 private teachers for 1993–94. The samples of newly hired teachers used for this report contain 2,474 public and 1,123 private new teachers in 1987–88; 3,458 public and 1,159 private new teachers in 1990–91; and 4,068 public and 1,435 private new teachers in 1993–94.

Definitions

Delayed entrant. A first-year teacher who had engaged in other activities in the year or years between graduating from college or receiving his or her highest degree and becoming a teacher.

Experienced teacher. A teacher who is either a transfer or a reentrant.

First-time teacher. A teacher who is either a newly prepared teacher or a delayed entrant.

Newly hired teacher. A teacher who is either a newly prepared teacher, a delayed entrant, a transfer, or a reentrant.

Newly prepared teacher. *A* first-year teacher who was attending college or had earned his or her highest degree in the previous year.

Private school. A school not in the public system that provides instruction for any of grades 1–12 where the instruction was not given exclusively in a private home.

Public school. An institution that provides educational services for at least one of grades 1–12 (or comparable ungraded levels), has one or more teachers who provide instruction, is located in one or more buildings, receives public funds as primary support, has an assigned administrator, and is operated by an education agency.

Reentrant. A teacher who in the previous school year was not teaching elementary or secondary school, but who had taught in the past.

Teacher. A school employee whose primary assignment was as a regular teacher (not as a itinerant, a teacher whose assignment requires them to provide instruction at more than one school, nor as a long-term substitute, teachers whose assignment requires them to fill the role of a regular teacher on a long-term basis, but they are still considered a substitute), halftime or more, in any of grades K–12.

Transfer. A teacher who in the previous year was teaching in another school either in the other sector (public or private), in another state, or within the same state and sector but in another school system (public school teachers) or private school (private school teachers).

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Appendix: Standard Error Tables

Table 1A.—Standard errors for percentage distribution of newly hired and continuing public and private school teachers: School years 1987–88, 1990–91, and 1993–94

Status of teachers	1987–88		1990–91		1993–94	
	Number	Percent	Number	Percent	Number	Percent
Public						
Total	**13,823.8**	(*)	**21,314.8**	(*)	**20,705.5**	(*)
New hires	3,345.5	0.15	4,706.8	0.19	4,156.9	0.16
Continuing	12,795.8	0.15	20,696.4	0.19	19,571.9	0.16
Private						
Total	**7,612.1**	(*)	**6,668.7**	(*)	**5,141.1**	(*)
New hires	2,396.3	0.69	2,116.6	0.53	1,871.2	0.48
Continuing	6,585.5	0.69	5,701.9	0.53	4,524.7	0.48

* Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 2A.—Standard errors for percentage distribution of newly hired public and private school teachers, by supply source: School years 1987–88, 1990–91, and 1993–94

Source	Public			Private		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Total number	**3,345.5**	**4,706.8**	**4,156.9**	**2,396.3**	**2,116.6**	**1,871.2**
First time teachers total	1.03	1.34	1.21	1.38	1.81	1.44
Newly prepared	0.88	1.10	0.92	1.17	1.42	1.01
Delayed entrants	0.75	1.18	1.09	0.85	1.32	1.28
Transfers total	1.31	1.33	1.18	1.80	2.11	1.38
Within state and sector	1.00	1.04	1.15	1.87	1.60	1.02
Across state	0.64	0.55	0.53	1.15	1.34	1.03
Across sector	0.80	0.87	0.52	1.31	1.21	0.67
Reentrants total	1.14	1.22	0.92	2.08	2.04	1.21

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 3A.—Standard errors for newly hired public school teachers, by supply source and by selected demographic characteristics: School years 1987–88, 1990–91, and 1993–94

	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
Characteristics	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Percent female	1.25	0.92	1.16	2.22	1.80	2.24	3.73	3.16	2.72	1.76	1.97	1.89	1.75	1.70	2.56
Percent minority	0.74	0.66	0.95	1.46	1.76	1.66	2.21	2.29	2.38	1.19	1.32	1.49	1.19	1.22	2.36
Age															
Mean all	0.20	0.24	0.15	0.34	0.37	0.24	0.52	0.42	0.48	0.29	0.36	0.34	0.33	0.44	0.56
Mean male	0.50	0.46	0.34	0.98	0.57	0.36	0.81	1.11	0.75	0.60	0.71	0.53	0.86	0.86	0.95
Mean female	0.22	0.29	0.22	0.34	0.45	0.34	0.65	0.49	0.53	0.35	0.46	0.45	0.32	0.50	0.67
Percent at age															
Less than 25	0.58	0.98	0.73	2.21	2.44	1.94	2.52	2.63	1.23	0.61	0.57	0.72	0.74	0.67	0.46
25–29	1.08	1.26	1.04	2.27	2.45	1.77	4.79	3.70	2.73	1.74	2.14	1.67	1.52	1.54	2.44
30–34	0.83	1.27	0.90	1.64	1.99	1.52	2.87	2.77	2.22	1.62	2.12	1.72	1.52	2.03	2.06
35–39	1.03	1.07	0.80	1.28	1.05	1.51	2.81	2.86	1.68	1.47	1.92	1.58	1.92	2.43	1.97
40–44	0.87	1.12	0.91	0.86	1.13	1.00	1.99	1.59	1.57	1.69	1.47	1.62	1.57	3.34	2.25
45–49	0.58	0.82	0.64	0.76	0.53	0.52	1.07	0.84	2.04	1.04	1.41	1.19	1.49	2.67	1.96
50 or more	0.65	0.64	0.67	0.84	0.75	0.30	0.41	0.71	0.55	1.04	1.30	1.02	1.07	1.80	2.11
Percent 35 or more	1.16	1.54	0.91	1.88	1.74	1.62	3.33	2.80	2.73	1.81	2.36	2.11	1.57	2.83	2.83
Marital status															
Percent married	1.28	1.57	1.12	2.59	2.62	2.34	3.72	3.46	3.02	2.21	2.32	2.54	1.56	2.65	2.66
Dependents															
Percent with any	1.03	1.35	1.16	2.50	2.43	1.96	4.06	3.21	3.12	1.81	2.10	2.36	1.90	2.60	2.74
Percent with any less than 5 years	1.00	0.99	0.90	1.37	1.57	1.61	3.73	2.91	2.11	1.61	1.74	1.59	1.79	2.50	1.93
Income/salary[1]															
Base year salary	241.0	280.6	169.1	262.1	209.3	205.1	522.7	360.8	322.0	360.8	357.9	229.1	416.8	952.4	545.9
Total year round income	275.9	300.0	198.9	338.7	244.8	232.6	685.2	376.9	640.3	416.9	406.9	244.1	454.0	986.1	567.6
Percent moonlighting	0.82	1.02	0.84	2.00	1.79	1.67	3.13	2.18	2.73	1.08	1.81	1.40	1.55	2.65	1.90
Family income[2]															
Percent at less than $25,000	1.29	1.10	0.75	2.79	3.16	1.73	4.04	2.29	1.98	2.06	1.44	1.04	1.94	1.74	0.94
Percent at $25,000 but less than $50,000	1.21	1.39	1.12	2.52	2.78	2.25	3.64	3.09	2.83	2.26	2.21	2.24	2.30	2.71	2.36
Percent at $50,000 or more	1.41	1.29	1.22	2.08	2.14	2.50	2.29	3.48	3.41	2.29	2.22	2.27	2.28	3.08	2.51

[1] 1987–88 and 1990–91 dollars adjusted to 1993–94 dollars using Consumer Price Index.
[2] 1987–88 and 1990–91 dollars are not adjusted to 1993–94.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987-88, 1990-91 and 1993-94 (Teacher Questionnaire).

Table 4A.—Standard errors for newly hired private school teachers, by supply source and by selected demographic characteristics: School years 1987–88, 1990–91, and 1993–94

Characteristics	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Percent female	2.18	1.69	1.21	3.47	3.60	2.65	7.08	4.54	3.49	3.40	3.06	1.92	2.56	2.89	2.11
Percent minority	1.09	0.82	0.99	1.57	2.48	1.30	5.03	1.39	2.96	1.97	1.86	1.60	1.50	1.15	1.55
Age															
Mean all	0.57	0.44	0.28	0.31	0.68	0.38	1.20	1.01	0.66	0.66	0.68	0.52	1.21	0.72	0.39
Mean male	1.04	0.82	0.56	0.75	0.88	0.77	3.42	1.38	1.26	1.72	1.42	0.91	1.69	1.05	1.22
Mean female	0.68	0.53	0.32	0.36	0.82	0.48	0.71	1.27	0.73	0.66	0.84	0.57	1.45	0.84	0.52
Percent at age															
Less than 25	0.99	1.09	0.83	3.84	5.20	2.58	3.13	3.08	3.77	0.80	1.00	1.24	0.76	0.49	0.72
25–29	1.57	1.88	1.22	3.77	4.02	2.21	5.53	4.53	3.54	3.20	3.04	2.12	2.21	2.13	1.60
30–34	2.02	1.32	1.01	1.21	2.99	0.92	8.21	1.35	2.12	2.27	2.54	2.01	3.61	2.49	1.99
35–39	2.06	1.62	0.95	1.81	1.58	1.31	3.95	2.85	2.49	3.69	2.55	2.11	3.44	3.71	2.12
40–44	1.77	1.38	0.98	1.14	1.79	1.30	1.98	1.90	1.65	3.46	2.74	1.66	3.00	3.35	2.34
45–49	1.06	1.11	0.73	0.00	1.57	1.67	1.38	2.05	1.06	2.12	2.05	1.48	1.92	2.09	2.28
50 or more	1.87	1.19	0.70	0.00	0.47	0.31	5.06	2.55	1.04	1.61	2.41	1.47	4.84	2.59	2.03
Percent 35 or more	2.46	2.28	1.50	2.16	3.15	1.85	6.63	4.68	3.04	3.76	3.50	3.15	4.07	3.28	2.15
Marital status															
Percent married	2.36	2.46	1.48	4.17	3.80	2.66	4.44	4.48	3.62	3.73	4.31	2.35	3.78	3.29	2.45
Dependents															
Percent with any	1.96	2.20	1.23	2.05	3.90	2.20	4.87	3.51	3.29	2.83	3.93	2.52	4.45	3.34	2.06
Percent with any less than 5 years	1.43	1.46	1.15	1.39	1.65	1.51	8.39	2.96	2.60	1.79	2.57	1.57	2.13	3.29	2.10
Income/salary[1]															
Base year salary	319.8	252.3	245.6	413.0	359.3	296.0	608.2	578.5	505.3	662.8	592.2	377.2	484.8	480.6	312.8
Total year round income	403.9	279.2	258.8	864.6	473.6	405.3	1,404.2	704.7	653.1	550.5	640.4	437.8	618.6	584.1	433.4
Percent moonlighting	2.41	1.91	1.48	3.75	3.74	2.18	7.35	4.70	2.95	2.87	3.83	2.47	5.09	3.99	2.82
Family income[2]															
Percent at less than $25,000	2.20	2.26	1.46	4.88	4.44	2.64	5.79	5.43	3.50	3.50	4.30	2.56	3.86	2.83	2.12
Percent at $25,000 but less than $50,000	2.29	2.31	1.44	3.10	4.41	2.78	5.31	4.81	3.08	3.83	3.67	2.22	3.93	3.34	2.73
Percent at $50,000 or more	1.56	1.93	1.42	3.40	3.21	2.33	2.95	3.93	3.33	2.71	3.47	2.14	3.02	3.46	2.88

[1] 1987–88 and 1990–91 dollars adjusted to 1993–94 dollars using Consumer Price Index.
[2] 1987–88 and 1990–91 dollars are not adjusted to 1993–94.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 5A.—Standard errors for selected demographic characteristics of newly hired and total public and private school teachers: School year 1993–94

Characteristics	Public		Private	
	New hires	All	New hires	All
Percent female	1.16	0.39	1.21	0.46
Percent minority	0.95	0.35	0.99	0.42
Mean age	0.15	0.06	0.28	0.14

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1993–94 (Teacher Questionnaire).

Table 6A.—Standard errors for percent of newly hired public and private school teachers, by supply source, highest degree earned, and average years of teaching experience: School years 1987–88, 1990–91, and 1993–94

Highest degree earned and years of teaching experience	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public															
BA/BS or less	1.01	1.20	1.01	1.89	1.00	1.25	2.34	2.90	1.96	1.97	1.91	2.11	1.68	3.21	2.20
MA/MS or more	1.01	1.20	1.01	1.89	1.00	1.25	2.34	2.90	1.96	1.97	1.91	2.11	1.68	3.21	2.20
MA/MS	0.91	1.23	1.01	1.83	0.99	1.19	2.01	2.92	1.62	1.72	1.79	2.03	1.67	2.92	2.19
Ed. Spec.	0.43	0.58	0.42	0.44	0.71	0.33	0.72	0.28	1.22	0.71	0.89	0.82	0.96	1.96	0.83
PhD/FPD[1]	0.19	0.21	0.24	—	0.22	0.06	—	0.64	0.34	0.40	0.16	0.76	0.37	0.49	0.16
Years of teaching experience	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	0.25	0.28	0.28	0.23	0.46	0.43
Total number	3,346.0	4,707.1	4,157.0	1,200.0	2,168.0	2,000.0	1,118.0	2,052.0	2,380.0	2,227.5	2,758.6	2,772.0	1,878.0	2,614.0	2,133.0
Private															
BA/BS or less	2.05	1.79	1.44	2.31	2.78	1.33	4.51	3.74	2.08	4.16	3.57	2.69	3.60	3.49	3.48
MA/MS or more	2.05	1.79	1.44	2.31	2.78	1.33	4.51	3.74	2.08	4.16	3.57	2.69	3.60	3.49	3.48
MA/MS	2.10	1.61	1.24	2.28	2.74	1.28	4.52	3.08	1.81	4.38	3.36	2.07	3.89	3.49	3.25
Ed. Spec.	0.61	0.80	0.48	—	0.53	0.66	—	0.31	—	1.06	1.48	1.00	1.16	1.78	1.25
PhD/FPD[1]	0.44	0.52	0.42	—	—	—	—	—	0.77	—	0.90	1.04	1.21	0.81	0.43
Years of teaching experience	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]	0.53	0.55	0.39	1.36	0.53	0.39
Total number	2,396.0	2,117.0	1,871.0	653.0	875.0	687.0	505.0	698.0	727.0	1,254.0	1,259.0	1,078.0	1,387.0	1,373.0	863.0

— Too few sample cases for a reliable estimate.
[1] Doctorate or first professional degree.
[2] Not applicable.
NOTE: Percents may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 7A.—Standard errors for percentage distribution of newly hired public and private school teachers, by supply source and by various qualifications in primary assignment field: School years 1987–88, 1990–91, and 1993–94

	Total			Newly prepared			Delayed entrants			Transfers			Reentrants		
Characteristics	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public															
Major/minor with certification*	1.46	1.21	1.19	2.41	2.50	2.75	4.33	2.90	3.36	2.05	1.74	2.29	2.10	2.96	2.69
Certified* only	0.80	0.91	1.09	1.24	1.74	1.81	2.48	2.64	3.44	1.14	1.48	1.93	1.57	2.24	1.90
Major/minor without certification*	0.87	0.65	0.73	1.74	1.33	1.29	2.98	2.44	1.31	1.55	1.31	1.15	1.46	1.56	1.73
None of the above	1.19	0.63	0.88	2.32	1.33	2.11	4.11	2.55	2.07	1.48	0.97	0.63	1.89	1.22	1.75
Percentage who held the following qualifications:															
Certification*	1.59	0.80	1.13	2.47	1.83	2.46	4.53	2.89	2.25	2.28	1.41	1.24	1.89	1.94	2.03
Major or minor	1.25	1.02	1.20	2.26	2.18	2.51	4.59	2.82	3.50	1.74	1.53	2.01	2.16	2.95	2.61
Temporary/emergency certification	0.98	0.84	0.92	1.95	1.69	1.81	3.68	3.53	1.79	1.45	1.39	0.65	1.18	1.36	2.02
Private															
Major/minor with certification*	1.88	1.73	1.52	3.89	3.49	2.20	3.31	4.48	2.63	3.18	3.21	2.64	4.15	2.63	3.22
Certified* only	1.01	1.20	0.94	1.22	2.90	1.29	3.30	2.70	1.99	1.98	1.90	1.60	1.62	2.60	1.59
Major/minor without certification*	2.15	1.58	1.33	3.90	2.87	2.21	6.81	3.94	3.20	2.53	2.98	2.16	4.33	3.82	3.00
None of the above	2.14	1.44	1.41	3.24	3.39	2.14	7.94	4.96	3.49	3.65	3.09	2.81	3.12	2.18	2.76
Percentage who held the following qualifications:															
Certification*	1.96	1.68	1.57	3.94	3.66	2.22	4.97	4.99	2.96	3.66	3.54	2.67	4.03	3.36	3.34
Major or minor	1.89	1.74	1.67	3.51	3.90	2.53	7.20	5.02	3.83	3.40	3.15	3.18	2.99	3.19	3.11
Temporary/emergency certification	1.48	1.81	0.86	4.68	2.90	1.33	3.35	3.41	2.04	2.13	3.29	1.57	2.18	3.66	1.39

* Certification includes the holding of an advanced, regular, alternative, provisional, or probationary teaching certificate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 8A.—Standard errors for percentage distribution of newly hired public and private school teachers, by supply source and by prior year activity: School years 1987–88, 1990–91, and 1993–94

Characteristics	Newly prepared			Delayed entrants			Transfers			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public												
Teaching												
Public, other system	(1)	(1)	(1)	(1)	(1)	(1)	1.88	2.28	(2)	(1)	(1)	(1)
Private	(1)	(1)	(1)	(1)	(1)	(1)	1.88	2.28	(2)	(1)	(1)	(1)
Postsecondary	—	0.09	0.39	1.52	0.82	0.63	(1)	(1)	(1)	0.68	1.1	0.55
Preschool	(2)	0.22	—	(2)	0.78	1.52	(1)	(1)	(1)	(2)	1.01	0.95
Substitute	(2)	0.66	1.14	(2)	3.80	2.58	(1)	(1)	(1)	(2)	2.65	2.24
Working, non-teaching	0.58	1.02	0.92	3.32	3.39	2.57	(1)	(1)	(1)	1.62	3.21	1.80
In education	0.43	0.90	0.78	2.74	1.56	1.61	(1)	(1)	(1)	1.00	3.30	1.42
Outside education	0.29	0.45	0.61	3.25	3.32	2.40	(1)	(1)	(1)	1.15	1.72	1.82
College	0.98	1.43	1.76	(1)	(1)	(1)	(1)	(1)	(1)	1.78	1.64	2.69
Caring for family members	—	—	0.18	2.49	2.17	1.08	(1)	(1)	(1)	2.14	3.03	1.75
Other	0.81	—	0.22	3.86	1.56	0.67	(1)	(1)	(1)	1.72	0.68	0.60
Total number of new hires	1,200.2	2,168.4	2,000.1	1,118.3	2,052.2	2,380.1	2,227.5	2,758.6	2,771.7	1,877.5	2,613.7	2,133.3
Private												
Teaching total												
Public	(1)	(1)	(1)	(1)	(1)	(1)	3.33	3.07	(2)	(1)	(1)	(1)
Private, in same state	(1)	(1)	(1)	(1)	(1)	(1)	3.33	3.07	(2)	(1)	(1)	(1)
Postsecondary	—	—	1.04	—	2.01	1.06	(1)	(1)	(1)	0.88	1.66	1.48
Preschool	(2)	—	—	(2)	1.10	1.09	(1)	(1)	(1)	(2)	1.47	0.84
Substitute	(2)	1.09	1.73	(2)	4.85	2.16	(1)	(1)	(1)	(2)	2.48	1.78
Working non-teaching	1.82	1.97	0.94	7.05	5.30	3.25	(1)	(1)	(1)	3.69	3.80	2.71
In education	—	1.36	0.59	2.97	2.60	2.63	(1)	(1)	(1)	2.17	1.92	1.86
Outside education	1.71	1.46	0.61	6.96	5.39	2.94	(1)	(1)	(1)	2.83	3.65	2.48
College	2.13	2.37	1.95	(1)	(1)	(1)	(1)	(1)	(1)	3.01	1.28	1.51
Caring for family members	—	0.00	0.39	7.75	3.34	1.47	(1)	(1)	(1)	3.20	3.67	2.50
Other	0.84	0.00	—	3.69	1.31	1.18	(1)	(1)	(1)	4.23	1.46	0.70
Total number of new hires	652.6	874.5	686.8	505.5	698.0	727.2	1,254.2	1,258.6	1,077.7	1,386.8	1,372.9	863.0

— Too few sample cases for a reliable estimate.
[1] Not applicable.
[2] Data not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

Table 9A.—Standard errors for percentage distribution of newly hired public and private teachers in an occupation the year prior to teaching, by supply source and by prior year occupation: School years 1987–88, 1990–91, and 1993–94

Characteristics	Newly prepared			Delayed entrants			Reentrants		
	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94	1987–88	1990–91	1993–94
Public									
Occupations in education									
School professional	12.65	14.00	—	4.71	8.70	6.72	5.86	(*)	(*)
Teachers aide	11.95	14.00	2.70	7.75	9.17	5.92	5.52	(*)	(*)
Other staff	10.27	—	—	8.65	5.66	2.69	4.83	(*)	(*)
Total number	416.2	346.3	414.3	476.7	442.8	925.3	553.0	(*)	(*)
Occupations outside education									
Professional (Mgr., Scientific)	11.50	—	16.90	6.56	6.64	6.01	3.98	(*)	(*)
Support (Tech., Sales, Admin.)	12.00	17.60	16.70	6.20	7.20	3.97	4.23	(*)	(*)
All other (Services, Mechanical, Construction, Farming)	8.90	15.60	3.80	3.55	5.91	4.79	2.94	(*)	(*)
Total number	323.8	326.1	324.1	509.5	957.3	1,155.7	665.4	(*)	(*)
Private									
Occupations in education									
School professional	—	—	17.90	16.47	—	7.60	12.23	(*)	(*)
Teachers aide	17.80	—	17.50	13.65	—	6.97	13.64	(*)	(*)
Other staff	—	—	—	8.46	—	—	6.77	(*)	(*)
Total number	78.5	68.5	77.0	196.7	268.5	191.8	413.2	(*)	(*)
Occupations outside education									
Professional (Mgr., Scientific)	24.60	11.10	20.00	10.25	7.47	4.96	8.03	(*)	(*)
Support (Tech., Sales, Admin.)	22.30	14.00	—	8.32	8.28	6.25	8.54	(*)	(*)
All other (Services, Mechanical, Construction, Farming)	—	16.10	—	8.71	5.76	7.50	4.41	(*)	(*)
Total number	209.7	329.2	72.1	452.7	483.5	623.7	500.2	(*)	(*)

— Too few sample observations for a reliable estimate.
* Data not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, 1987–88, 1990–91, and 1993–94 (Teacher Questionnaire).

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